

CLAIMS

WHAT IS CLAIMED IS:

1. A fluid-dispenser device for a washing machine having a wash basket movable about an axis and defining radii extending in a horizontal plane relative to a circumference in correspondence with respect to said wash basket, the device comprising:
at least two outlet ports positioned to direct respective jets of fluid into the wash basket, each of the jets having a distinctive exit angle relative to a respective radius in said horizontal plane and passing through the respective outlet ports.
2. The fluid-dispenser device of claim 1 wherein each of the outlet ports is configured to provide a distinctive exit velocity to the respective jets of fluid.
3. The fluid-dispenser device of claim 1 wherein each of the outlet ports is configured to have a distinctive inclination angle relative to said horizontal plane.
4. The fluid-dispenser device of claim 1 wherein the at least two outlet ports are adjacent to one another.
5. The fluid-dispenser device of claim 4 comprising multiple sets of at least two adjacent ports distributed along the circumference in correspondence with the wash basket.
6. The fluid-dispenser of claim 5 wherein each of the multiple sets of adjacent ports is equidistantly distributed along the circumference in correspondence with the wash basket.
7. The fluid-dispenser device of claim 1 comprising a pressurized annular ring.

8. The fluid-dispenser device of claim 7 wherein said pressurized annular ring comprises a segmented annular ring.

9. The fluid dispenser device of claim 7 wherein said pressurized annular ring comprises a single-piece ring.

10. The fluid dispenser device of claim 1 comprising a multi-branched network.

11. The fluid-dispenser device of claim 1 comprising fluid conducting means for passing pressurized fluid from an inlet port to the outlet ports therein.

12. The fluid-dispenser device of claim 1 comprising fluid conducting means for passing different fluids from a plurality of inlet ports to the outlet ports therein.

13. The fluid-dispenser device of claim 1 wherein the at least two ports are situated at different points along the circumference in correspondence with the wash basket.

14. The fluid-dispenser device of claim 1 wherein the at least two ports are situated at different points along a common radius.

15. The fluid-dispenser device of claim 1 coupled to a controller configured to impart relative motion between the outlet ports and the wash basket as the jets of fluid are directed into the wash basket.

16. The fluid-dispenser device of claim 15 wherein said controller is further configured to command a spin cycle for extracting rinse-cycle fluid from the wash basket, said rinse-cycle fluid used during a rinse cycle.

17. The fluid-dispenser device of claim 16 wherein said controller is further configured to command a sequence of said rinse and spin cycles, and, during each of said rinse cycles, is configured to command delivery of a sufficiently lesser amount of fluid that would otherwise be required to fill said wash basket to appropriately wet articles positioned along a side wall of the basket.

18. The fluid-dispenser device of claim 12 coupled to a controller configured to command passing said different fluids during an operational cycle of the washing machine, said different fluids passed in one of the following two modes: simultaneously and selectively.

19. The fluid-dispenser device of claim 1 coupled to a device selected from the group consisting of a fluid-pressurizing device, a pressure-regulating device, and a flow regulating device.

20. A fluid-dispenser device for a washing machine having a wash basket rotatable about a vertical axis and defining radii extending in a horizontal plane relative to a circumference in correspondence with respect to said wash basket, the device comprising:

at least two ports positioned to direct respective jets of fluid into a wash basket, each of the jets having a generally parallel relationship with respect to one another.

21. The fluid-dispenser device of claim 20 wherein each of the outlet ports is configured to provide a distinctive exit velocity to the respective jets of fluid.

22. The fluid-dispenser device of claim 20 wherein each of the outlet ports is configured to have a distinctive inclination angle relative to said horizontal plane.

23. The fluid-dispenser device of claim 20 wherein each of the outlet ports is configured to provide a distinctive exit angle to the respective jets of fluid relative to a respective radius in said horizontal plane passing through said ports.

24. The fluid-dispenser device of claim 20 the at least two outlet ports are adjacent to one another.

25. The fluid-dispenser device of claim 24 comprising multiple sets of adjacent ports distributed along the along the circumference in correspondence with the wash basket.

26. The fluid-dispenser of claim 25 wherein each of the multiple sets of adjacent ports is equidistantly distributed along the circumference in correspondence with the wash basket.

27. The fluid-dispenser device of claim 20 comprising a pressurized annular ring.

28. The fluid-dispenser device of claim 20 wherein said pressurized annular ring comprises a segmented annular ring.

29. The fluid-dispenser device of claim 20 wherein the at least two ports are situated at different points along the circumference in correspondence with the wash basket.

30. The fluid dispenser device of claim 27 wherein said pressurized annular ring comprises a single-piece ring.

31. The fluid dispenser device of claim 20 comprising a multi-branched network.

32. The fluid-dispenser device of claim 20 wherein the at least two ports are situated along a common radius.

33. The fluid-dispenser device of claim 20 coupled to a controller configured to impart relative rotation between the outlet ports and the wash basket as the jets of fluid are directed into the wash basket.

34. The fluid-dispenser device of claim 33 wherein said controller is further configured to command a spin cycle for extracting rinse-cycle fluid from the wash basket, said rinse-cycle fluid used during a rinse cycle.

35. The fluid-dispenser device of claim 34 wherein said controller is further configured to command a sequence of said rinse and spin cycles, and, during each of said rinse cycles, is configured to command delivery of a sufficiently lesser amount of fluid that would otherwise be required to fill said wash basket to appropriately wet articles positioned along a side wall of the basket.

36. A method for delivering rinsing fluid to articles in a washing machine having a wash basket rotatable about a vertical axis, the wash basket defining radii extending in a horizontal plane relative to a circumference in correspondence with respect to said wash basket, the method comprising:

directing respective jets of fluid into the wash basket from at least two outlet ports; and

configuring each of the jets to have a generally parallel relationship with respect to one another.

37. The method of claim 36 further comprising providing a distinctive exit velocity to the respective jets of fluid.

38. The method of claim 36 further comprising configuring each of the outlet ports to have a distinctive inclination angle relative to said horizontal plane.

39. The method of claim 36 further comprising configuring each of the outlet ports to provide a distinctive exit angle to the respective jets of fluid relative to a respective radius in said horizontal plane passing through said ports.

40. The method of claim 36 further comprising imparting relative motion between the outlet ports and the wash basket as the jets of fluid are directed into the wash basket.

41. The method of claim 36 wherein each jet of fluid is configured to directly impinge on articles that may be positioned along a sidewall of the wash basket.

44. The method of claim 41 further comprising a spin cycle for extracting rinse-cycle fluid from the wash basket, said rinse-cycle fluid used during a rinse cycle.

45. The method of claim 44 further comprising a sequence of said rinse and spin cycles, and, during each of said rinse cycles, delivering a lesser amount of fluid that would otherwise be required to fill said wash basket to sufficiently wet the articles positioned along the side wall of the basket.